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ABSTRACT

This paper describes a school-university partnership program. The first section gives general background on teacher research and describes this project. The second part describes two cases, one a study of the loss of voice of female students in third grade mathematics and the second, the effect of positive discipline and a time-out room with disruptive special education students. The described school-university partnership combines teacher research, college student research, and college student community service. The process begins when a teacher contacts university faculty with a research question. University faculty and fellow teachers then help the teacher design a research project to answer the posed question. One or two undergraduate students are paired with the teacher. These students are either enrolled in a course designed around such research projects or are interested in independent study for credit. The college student participates in the research design process with the teachers and then assists with much of the data collection and analysis. The students write up the research report which provides the teacher with a written summary of the results and which also represents the student's written academic work for the course. (JLS)

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Facilitating Teacher Research through School-University Partnerships

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During 1995-96, in her third grade class, Carnie Burns had a recurring problem. One girl complained of a stomach ache daily at exactly the same time—right before the math lesson. Despite her intelligence, her good interpersonal skills, and her exceptional athletic ability (she had been the only girl to go to hockey camp in Canada the previous summer), her experiences with math caused this girl's self-confidence to plummet. She had to go to remedial math during the summer, and gave up hockey. While wrestling with this girl's problem, Carnie discovered another. She had asked her students to write about what they would be doing in twenty-five years, and discovered that only one girl in the entire class saw herself as having a career. Carnie began to think that perhaps the "loss of voice" that Brown and Gilligan (1992) say starts for girls in fifth grade in fact begins much earlier.

Carnie decided to turn this into a research project. A year earlier she and several colleagues had done teacher research on a curriculum new to their school, so she had experience formulating research questions and gathering and analyzing data. Looking ahead to 1996-97, she decided to focus on girls' loss of voice in the math classroom. As a teacher, however, she wanted to do more than simply understand the phenomenon. She also wanted to develop techniques to keep it from happening. Based in her experiences with writing across the curriculum and multiple intelligences curricula, she formulated a question: if girls do journal writing about their math, does it mitigate their loss of voice in school?

Marjorie Clifford had a different problem. She was responsible for 130 middle school students who required special education, and the usual disciplinary methods were not working with these children. She and her fellow teachers had tried various types of rules and regulations, assertive discipline, detentions and suspensions, but none were effectively changing students' behavior. While doing graduate work, Marjorie came across the idea of positive discipline rooms. She had the opportunity to visit such a room in another district, and decided to try this approach in her own school. The administrators gave permission, and the room began operating in the fall of 1995.

Staff refer to the positive discipline room as CASPER (Choices and Student Planning Educational Room). Teachers can refer students to this room, instead of imposing traditional punitive discipline. Students work with a staff tutor there to write a behavior plan, which describes how their behavior interrupted their learning and what they can do to change it.

After the classroom teacher approves the behavior plan, students can reenter that class. Marjorie and the other special education teachers knew immediately that this positive discipline approach was helping many students. But she wanted more than subjective impressions to take to administrators. What sort of evidence could she provide to show that positive discipline works for these special education students?

Like Marjorie, Carnie was excited about her new project. She looked forward to trying math journals and gathering evidence for their potential effectiveness. But, also like Marjorie, she had concerns about the research. How could she be sure if the journals were helping? How could she measure "loss of voice"? And where would she get the time to do this research? This paper describes a school-university partnership program—which we call "action research partnerships"—that is helping Carnie and Marjorie answer their questions. The first section below gives some general background on teacher research, and then describes this partnership program. The second section returns to the two projects, and describes how the program worked in those cases. The paper ends with a summary of the program's strengths and remaining problems.

Teacher Research Partnerships

Traditionally, a teacher who wants to know what sorts of classroom practices work turns to research done by experts. He or she looks at curriculum guides and research reports produced by academic researchers, educational bureaucrats, and publishing companies. Of course, teachers have always adapted curricula to their particular classrooms and done their own evaluations of efficacy. Duckworth (1986) tells us, in fact, that all teaching is research—that teachers regularly identify problems, develop solutions, and then test to see if those solutions work in the real world of their classrooms. But the sort of contextualized knowledge developed by teachers has generally been dismissed as "anecdotal," and not taken seriously in research or policy discussions.

Times are changing, however. In the last two decades teachers have begun to do their own, more systematic classroom-based inquiry, and the "experts" are giving such teacher research more respect (Cochran-Smith & Lytle, 1993; Hollingsworth & Sockett, 1994). Cochran-Smith and Lytle define teacher research as systematic inquiry carried out by teachers

on their own schools and classrooms. They argue that teacher research challenges the traditional view of educational knowledge production. Official knowledge about teaching and learning is no longer developed solely by university, government, and corporate experts—with teachers as technicians merely implementing others' ideas. Instead, teachers develop their own knowledge about education, in their own classrooms, as part of the process of teaching and improving their practice.

Teacher research provides a solution for teachers like Carnie and Marjorie who have questions about their teaching. Instead of looking up the experts' recommendations about math journals and positive discipline rooms, and taking their word for it, teachers can do their own systematic research on such topics. Many teachers do in fact get to this point: resolving that they should gather systematic evidence about the results of their innovations. But problems arise. Teachers have not generally been trained to do research. Their administrators and colleagues often do not support the idea of teachers doing research. They do not have much extra time, and they are uneasy about adding daily research responsibilities to their already full days. For these reasons Lieberman and Miller (1994) argue that teacher researchers need supporting institutional structures. Specifically, prospective teacher researchers need time, networks for sharing ideas, and norms of collegiality and openness about classroom practice and research.

Our program of teacher research partnerships can help teachers overcome such obstacles and complete their projects. Teacher research partnerships combine teacher research, college student research, and college student community service. A partnership starts when a teacher contacts university faculty with a research question. (We have also recently begun a teacher research group, in which teacher researchers help each other develop their questions). University faculty and fellow teachers then help the teacher design a research project to answer her or his question. Next, we pair one or two undergraduates with the teacher. These students are either enrolled in a course designed around such research projects (a course entitled "Action Research in Psychology and Education"), or are interested in working on an independent research project for academic credit. Ideally, the student participates in the research design process with the teacher, and then does much of the technical, often repetitive work involved in data collection and analysis. Finally, the student

writes up a research report, which provides the teacher with a written summary of the results and also represents the student's written academic work for the course.

Such partnerships facilitate teacher research, teach college students research skills in a new way, and expand school-college cooperation. The partnerships empower teachers to pursue their own research: they emphasize teachers' ownership of their research questions; they provide a place and an occasion for teachers to reflect systematically on their practice; and they provide assistance with the technical and time-consuming aspects of research. The partnerships also allow college students to learn about real-world practitioners' concerns and to practice their research skills on complex, meaningful data. So when they work—and in our experience most of them do—teacher research partnerships benefit both teachers and college students. They also enhance school-college relations, by getting students out into the schools and by giving teachers another way to be involved with the university.

Two Cases

Like many real-world research problems, Carnie's got more complicated before she even started. The day before school began, another teacher informed her that five boys had mistakenly been put together in Carnie's advanced math group—five boys that, according to their previous teachers, should never be put together. Apparently they drew strength from numbers and caused discipline problems. Even worse, they were known for misogynist behavior. The other teacher recounted an instance in which one of these boys had told a young female substitute "bend over, whore, so I can stick it to you." This problem had been exacerbated by last year's (male) teacher, who had tolerated some of this from the boys.

In addition to this problem, Carnie's district has a new math textbook this year that everyone dislikes. This text was making both Carnie and her students hate math, so she put it aside after a month or two. The bad textbook and the misogynist boys complicated Carnie's research—for how could she know whether it was one of these two factors, or issues in girls' development, that lead her female students to remain silent during math lessons? Carnie pushed on, however, with her plans for math journals. She had students write "math autobiographies" on the first day, which helped her learn about students' views of themselves as mathematicians. She also requires students to explain their approaches to particular

problems in the journal, which allows her to assess students' understanding more fully. A primary function of the journals, as planned, is to let girls communicate their thoughts and develop an articulate voice on mathematical topics. If journals can help girls do this even in the face of the boys and the text, Carnie would have an interesting research finding.

Three undergraduates have joined action research partnerships with Carnie during 1996-97, one in the fall and two in the winter. They have observed math lessons and kept their own journals. They have conducted interviews with small groups of students, using questions Carnie wrote, and have transcribed these interviews. Two students are currently analyzing data from the interviews, and plan follow-up interviews with students around issues emerging from the earlier data. Preliminary results show that many girls are using the journals to express themselves. As one girl put it, writing is "easier than saying it out loud because people can't laugh at you or anything."

The action research partnerships, then, have contributed to Carnie's project. The undergraduates have had time to gather data that Carnie would not otherwise have access to. Together with their professors, the undergraduates have also brought research skills that Carnie has not yet mastered. Perhaps the most important positive result Carnie reports is the regular intellectual stimulation she gets from her discussions with professors, undergraduates, and other teacher researchers. Her experience with the undergraduates has not been entirely positive, however. Her first student partner developed her own research question, one different from Carnie's, and the professor had to direct her back to the original issue. This student wanted more direction from Carnie, who was often unable to meet with her because of her own busy teaching schedule. All three undergraduates have also invested less time than they might have, because of their own busy schedules and occasional crises.

During the winter of 1996, Marjorie had one undergraduate research partner. This student took raw data Marjorie had been collecting, entered it into the computer, and generated summary charts on CASPER use by day of the week, month, class period, student name, referring teacher, and infraction. The student had the time and computer skills to do this work during the academic year. These charts helped convince administrators to petition the district for two tutors to staff the room during 1996-97, and the district followed this recommendation. After her experiences last year, Marjorie was eager to continue her research

during 1996-97, so much so that she added two research questions. She is still exploring whether the positive discipline room helps improve students' behavior. But now she also wants to investigate whether experience in the room helps individual students' subsequent learning in the classroom, and whether the availability of CASPER improves the overall climate for learning in classrooms.

As happened to Carnie, Marjorie's research was also complicated by factors beyond her control. The CASPER staff tutor left in the spring of 1996, and two new staff with different approaches and personalities were hired. Four new special education classroom teachers came to the school, who needed training and brought their own beliefs about discipline. And students in the incoming seventh grade class brought more severe behavioral problems than the school had seen. Marjorie also pressed on, however, and has had two undergraduate partners during 1996-97.

The first observed CASPER several times, helped design teacher and student surveys to assess response to the room, began interviewing teachers and students using these surveys, and did some background research on positive discipline. All of this allowed more data collection than Marjorie would have been able to do alone, and thus pushed the project forward. There were problems, however. The undergraduate planned twelve interviews, but completed only two, because she had to leave school in the middle of the term due to personal problems. The interviews she did were also not as useful as they might have been—as she interjected her own opinions as often as she listened to the interviewees'. College faculty have lived up to their promise to repair the damage, by assigning Marjorie a particularly competent and interested undergraduate this winter semester. She has done observations, and begun a review of student folders that promises to generate more useful data on the success of the program.

Successes and Remaining Problems

Both Carnie and Marjorie, then, have been able to go further with their research than they would have on their own. The program has had weaknesses as well as strengths, however. In order to evaluate our project, in addition to data from Carnie and Marjorie's projects, we have gathered various sorts of data from action research partnerships which took

place in 1995: student final reports from various projects; written evaluations from students and teachers who participated in partnerships; and interviews with selected teachers. In general, responses to our action research partnerships have been good, ranging from a few tepid to several outstanding evaluations. One teacher wrote that the partnership experience "makes me think about my role in a new and exciting way." One student called it "the best learning experience I have had at Bates." Three positive themes emerged from the teachers' evaluations. They appreciated the opportunity to get other points of view on their classrooms—the college students', their students', and their colleagues'. They appreciated the time and research expertise that undergraduates provided. And they appreciated the new knowledge about their classrooms and schools, which they expect will help them serve children better. Two positive themes emerged from the college students' evaluations. They enjoyed the real-world experience—seeing the complexity of actual problems, helping people in the community, and getting a sense that they could make a difference. And they appreciated the opportunity to take initiative and think on their own, instead of having their work more closely controlled by a professor.

Perhaps the most important goal of teacher research is to reward and to develop teachers' inquiring dispositions. With a top-down model of educational knowledge, experts figure out what works and teachers simply implement it. Teacher research substitutes a dialectic model of educational theory and practice: teachers read about or develop an idea for improving practice, then they try it; while doing so, they gather data on how the innovation works, and evaluate its strengths and weaknesses; then they modify their ideas about how to teach, and the cycle begins again (see Lewin [1946] for a classic description of this dialectic or spiral model of theory and practice). While certainly not definitive, our data show some encouraging signs that teachers and college students came to appreciate and participate in this dialectical model of theory and practice.

Carnie says that these action research partnerships can provide an "intellectual rigor" that is too often missing in teachers' daily lives. Marjorie says that she "has never felt as alive" in her teaching as she has when pursuing her research project. Another teacher said: "I know that when a project is started, the findings end up different from the question." At first glance this might seem a depressing conclusion, as it means no clear end to the project. But

instead many teachers see it as an opportunity to enter the process of continuous inquiry and growth. The various new questions raised by their research "make [us] realize how much more can be done" and can serve as a "springboard to discussions and programs." Further evidence for this disposition toward continuous inquiry came from some teachers' plans for improving their curriculum, which they began to develop while still conducting their first research project. One teacher summed it up: "as a teacher it's quite possible to get stuck at the level of dwelling on day-to-day problems....[this research partnership] helped me transcend some of those problems and get a broader focus on my role as a teacher."

Despite the overall success of our project, we conclude with two concerns. First, for these partnerships to work teachers and university faculty must plan the research questions well in advance of the semester. Many teachers need practice thinking about research, before they are thrown together with a student. And if undergraduates do not move right into instrument design or data collection, they often lose interest and drift. We have tried to solve this problem in two ways: we sponsor a teacher research group at the university, where teachers develop and discuss ongoing projects—and this provides a pool of potential partnership projects; university faculty and participating teachers also meet for a full day during vacation before the semester, to sharpen the research questions and plan. Second, both professors and teachers must be prepared to negotiate the unpredictable relationships between research partners. Sometimes teachers want to hand the project off to undergraduates, and remain uninvolved. In such cases the teachers need to be drawn back in. Sometimes undergraduates expect teachers to supervise and direct them as if they were doing a science lab, without understanding the time constraints teachers work under. In such cases the students need to become more independent. Sometimes the demands of teachers' and undergraduates' other duties pulls them away from a project, and they need to revise their plans. (We have offered our action research course once during a special five-week term in which undergraduates have only one class, and this worked well because they could commit themselves fully; the shortness of the term limited the possible projects, however). Sometimes undergraduates do not fully live up to their responsibilities—and in this course the professor must do more than fail the student, as he or she must also repair the relationship with the teacher. Sometimes, finally, the project does not fit neatly within a semester, and the

student leaves in the middle. Such cases can often be saved by assigning a new student during the next term, if the course is being offered again. Overall, our partnerships have been successful for all involved, but it is important to note the weaknesses and to work to improve them.

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